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| 10/542,342 | 07/14/2005 | Yoshihiro Kanda | 2005_0762A | 2708 |

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| EXAMINER |
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EDUN, MOHAMMAD N

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| ART UNIT | PAPER NUMBER |
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2627

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| NOTIFICATION DATE | DELIVERY MODE |
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04/05/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/542,342 | Applicant(s) KANDA ET AL. | |
| | Examiner MUHAMMAD N. EDUN | Art Unit 2627 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-62 is/are pending in the application.
- 4a) Of the above claim(s) 50-62 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 37, 38 and 49 is/are allowed.
- 6) ☒ Claim(s) 32, 36 and 48 is/are rejected.
- 7) ☒ Claim(s) 33-35 and 39-47 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of species Fig. 1, directed to claims 32-49, in the reply filed on 01/22/2010 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 50-62 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 01/22/2010, as discussed above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

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granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claim 32 is rejected under 35 U.S.C. 102(b) as being anticipated by
Furumiya et al. (US 6,195,320).**

Furumiya et al. discloses the invention as claimed. The reference shows the optical disc device comprising: a high frequency band processing circuit (25) for removing low frequency components of signals outputted from photodetectors of an optical pickup, and subjecting frequency bands of the signals up to an RF signal frequency to AD conversion using a high-speed low-bit AD converter (see element 62), and then generating various kinds of signals required for recording/playback of an optical disc by digital processing; and a low frequency band processing circuit (27, note it is described in column 4, lines 9-11 and 56-59, as a Low pass filter) for removing high frequency components of the signals outputted from the photodetectors (shown in Fig. 7) of the optical pickup (3), and subjecting the signals to AD conversion with a low-speed high-bit AD converter (see element 62), and then generating various kinds of signals required for recording/playback of the optical disc by digital processing, as set forth in claim 32. See also the description of the apparatus and figures for further details relating to the limitations as set forth in the claims.

Claim 36 is rejected under 35 U.S.C. 102(b) as being anticipated by Hosoya et al. (US 5,428,455).

Hosoya et al. discloses the invention as claimed. The reference shows the optical disc device including a plurality of HPFs (high-frequency band compensation filter 12, Narrow-Band Pass Filter 15 and Wide-band Pass Filter 16, Note: the Narrow-Band Pass Filter and Wide-band Pass Filters inherently include HPFs circuits in order to achieve the band pass filtering ability, and also the different band pass filters 12, 15 and 16 includes different frequency response and cutoff frequencies) having different cutoff frequencies which are in ascending order with respect to signals outputted from photodetectors (3) of the pickup (31), and performing detection of plural signals which are required for recording/playback of an optical disc, using signals of desired frequency bands, which are outputted from the respective HPFs (taken to be the video output), as set forth in claim 36. See also the description of the apparatus and figures for further details relating to the limitations as set forth in the claims.

Claim 48 is rejected under 35 U.S.C. 102(e) as being anticipated by Aoe et al. (US 7,057,982).

Aoe et al. discloses the invention as claimed. The reference shows the optical disc device comprising: a time-division AD converter (40) for performing AD conversion of plural channels while successively selecting signals outputted from photodetectors of a pickup (see Fig. 9); a servo error signal generation circuit for performing a servo error

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signal generation operation by digital processing using the output from the time-division AD converter to generate a servo error signal (see output of servo signals from elements 40 and 28); and a servo operation circuit for performing a digital servo operation on the basis of the servo error signal generated by the servo error signal generation circuit to generate a driving signal for a driving system (see Fig. 7); wherein, when said servo error signal generation circuit performs the servo error signal generation operation using the signals from the photodetectors of the optical pickup receiving a main beam and signals from the photodetectors of the optical pickup receiving a sub beam (see Fig. 8), said servo error signal generation circuit controls the operation timing of arithmetic processing for the signals from the photodetectors receiving the main beam (see For example Figs. 10, 17 and 18), which are outputted from the time-division AD converter, and the operation timing of receiving the sub beam, which are outputted from the time-division AD converter, separately from each other, and said servo operation circuit performs the digital servo operation using the signals generated by the servo error signal generation circuit to generate a driving signal for a driving system (see also Fig. 13 and columns 7-9), as set forth in claim 48. See also the description of the apparatus and figures for further details relating to the limitations as set forth in the claim.

Allowable Subject Matter

Claims 33-35 and 39-47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 37, 38 and 49 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Re claims 33-35 and 39-47

The prior art of record alone or in combination does not teach or suggest the optical disc device as recited in claim 32, having the further limitations as set forth in claims 33-35 and 39-47.

Re claim 37

The prior art of record alone or in combination does not teach or suggest the optical disk device having the combination of elements with their recited functions, along with a third HPFs for receiving the digital signals outputted from the AD converters, and removing frequencies which are higher than the cutoff frequency of the second HPFs and equal to and lower than a predetermined cutoff frequency, as set forth in claim 37.

Re claim 38

The prior art of record alone or in combination does not teach or suggest the optical disk device having the combination of elements with their recited functions, along with a third HPFs for receiving the digital signals outputted from the AD converters, and removing frequencies which are higher than the cutoff frequency of the second HPFs and equal to and lower than a predetermined cutoff frequency, as set forth in claim 38.

Re claims 49

The prior art of record alone or in combination does not teach or suggest the optical disk device having the combination of elements with their recited functions, along with LPFs having a cutoff frequency equal to or lower than $1/2$ of a sampling frequency, said LPFs being provided correspondingly to signals outputted from photodetectors of a pickup; a time-division AD converter for performing AD conversion of plural channels while successively selecting the output signals from the first LPFs; a servo error signal generation circuit for performing a servo error signal generation operation by digital processing using the output from the time-division AD converter to generate a servo error signal; and a servo operation circuit for performing a digital servo operation on the basis of the servo error signal generated by the servo error signal generation circuit to generate a driving signal for a driving system; wherein, when said servo error signal generation circuit performs the servo error signal generation operation using the signals

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from the photodetectors of the optical pickup receiving a main beam and signals from the photodetectors of the optical pickup receiving a sub beam, said servo error signal generation circuit controls the operation timing of arithmetic processing for the signals from the photodetectors receiving the main beam, which are outputted from the time-division AD converter, and the operation timing of arithmetic processing for the signals from the photodetectors receiving the sub beam, which are outputted from the time-division AD converter, separately from each other, and said servo operation circuit performs the digital servo operation using the signals generated by the servo error signal generation circuit to generate a driving signal for a driving system, as set forth in claim 49.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MUHAMMAD N. EDUN whose telephone number is 571-272-7617. The examiner can normally be reached on FLEXITIME.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/MUHAMMAD N EDUN/
Primary Examiner, Art Unit 2627**